

REMARKS

Claims 27, 29, 32-35, 37, 38, 41-44, and 49-52 are all the claims pending in the application. Claims 27, 29, 35, 41-44, and 49-52 are the independent claims. By this Amendment, Applicants cancel claims 26, 28, 30, 31, 36, and 53 without prejudice or disclaimer.

Statement of Substance of Interview

As an initial matter, Applicants' representative thanks the Examiner for the courtesies extended during the telephone interview conducted on September 8, 2010. In view of the helpful comments provided by the Examiner during the interview, and to expedite prosecution of the instant application, independent claims 27, 29, 35, 41-44, and 49-52 have been amended. Applicants respectfully submit that the amendments place the application in immediate condition for allowance as preliminarily agreed to by the Examiner subject to an updated search (*also see* Interview Summary dated September 14, 2010).

It is respectfully submitted that the instant STATEMENT OF SUBSTANCE OF INTERVIEW complies with the requirements of 37 C.F.R. §§1.2 and 1.133 and MPEP §713.04.

Claim Rejections - 35 U.S.C. § 103

Claims 26-31, 34, 37, 38, 41-44, and 49-51 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Publication No. 2004/0165558 to Ling *et al.* ("Ling") in view of U.S. Publication No. 2004/0143428 to Rappaport *et al.* ("Rappaport"). Claims 32, 33, and 38 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ling in view of Rappaport, and further in view of U.S. Publication No. 2005/0075073 to Kadous *et al.*

(“Kadous”). Claims 35, 36, 52, and 53 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ling in view of Rappaport, and further in view of U.S. Patent No. 5,861,781 to Ashby.

Applicants do not acquiesce to these rejections. In order to expedite prosecution, however, Applicants amend claim 27 by this Amendment to include the features of claims 26 and 30, along with a further clarifying amendment. The amendment being made herein was presented to the Examiner during the interview. As discussed during the interview and submitted herein, the prior art of record does not teach or suggest that “said symbol rate setting means and said means for lowering and increasing the multilevel modulation index simultaneously and dynamically change the symbol rate and the multilevel modulation index, respectively, according to the intensity of the multipath interference”¹, as recited in claim 27.

For example, in the Office Action it is asserted that by adjusting the data rate, the Ling reference also teaches adjusting the symbol rate since the symbol rate would allegedly change based on the change in the data rate, in view of the Wikipedia ‘symbol rate’ article. On the other hand, in a non-limiting embodiment of the claimed invention, the symbol rate and the data rate are separately (albeit simultaneously) set such that even when the symbol rate is increased, the data rate can be lowered (e.g., by lowering the multilevel modulation index). To clarify this point, Applicants have amended claim 27 to reflect the above-noted feature.

¹ Supported by *at least* page 15, line 21 to page 16, line 14 of the Specification and shown in FIG. 7 of the Drawings.

Therefore, Applicants respectfully submit that the prior art of record does not teach or suggest *at least* the above-noted features of claim 27. During the aforementioned interview, the Examiner acknowledged this point and agreed to conduct a new search upon the filing of a formal response. Accordingly, the instant Amendment is being filed.

Further, during the interview, the Examiner requested further clarification on how the symbol rate can be set high while the multilevel modulation index is set low. In other words, the Examiner was not sure whether the symbol rate and the multilevel modulation index (affecting the bit rate) can have an inversely proportional relationship.

Applicants respectfully submit that the symbol rate and the multilevel modulation index are independent parameters, and there is no relationship between them such that a change in value of one of these parameters necessarily would alter the value of the other parameter (Applicants further note that the data rate is corrected by the product of the symbol rate and the multilevel index). To facilitate the understanding of this point, the following non-limiting example is provided for the Examiner's convenience.

The example is in reference to "Part 15.3: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for High Rate Wireless Personal Area Networks (WPANs) - Amendment 2: Millimeter-wave-based Alternative Physical Layer Extension" which is a standard for millimeter-wave wireless WPAN. The referenced document is attached herewith. It is disclosed in this document that the symbol rate (e.g., see chapter 12.2.4.3 on page 92) is fixed to the chip rate (e.g., see Table 107, page.74). On the other hand, there exist a plurality of Modulation Coding Schemes (MCSs) which have different multilevel modulation indices, and

different data rates – the different data rates in each MCS of BPSK/MSK/QPSK/16QAM are shown (e.g., see Table 103, page 72). Thus, as shown by way of this example, the symbol rate can be determined independently of the multilevel index.

Of course, if the Examiner requires any further clarification regarding the claimed invention, the Examiner is respectfully requested to contact the Applicants' representative.

Independent claims 29, 35, 41-44, and 49-52 have been amended similar to the above-noted amendments to claim 27. Further, Ashby also does not cure the deficient teachings of Rappaport and Ling with respect to claims 35 and 52. Accordingly, claims 29, 35, 41-44, and 49-52 are patentable for *at least* reasons similar to those given above with respect to claim 27.

Claims 34 and 37 are patentable *at least* by virtue of their dependency.

Claims 32, 33, and 38 depend from claims 27 or 29. Since Kadous does not cure the deficient teachings of Ling and Rappaport with respect to claims 27 and 29, claims 32, 33, and 38 are patentable *at least* by virtue of their dependency.

Since claims 26, 28, 30, 31, 36, and 53 have been canceled, the rejections thereto are rendered moot.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111 AND
STATEMENT OF SUBSTANCE OF INTERVIEW
Appln. No.: 10/594,444
Attorney Docket No.: Q97384

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: October 12, 2010

/Quadeer A. Ahmed/

Quadeer A. Ahmed

Registration No. 60,835